

SIMPLE SCIENCE AT HOME



Engaging and educational
science experiments you
can do with everyday
materials you have at
home!

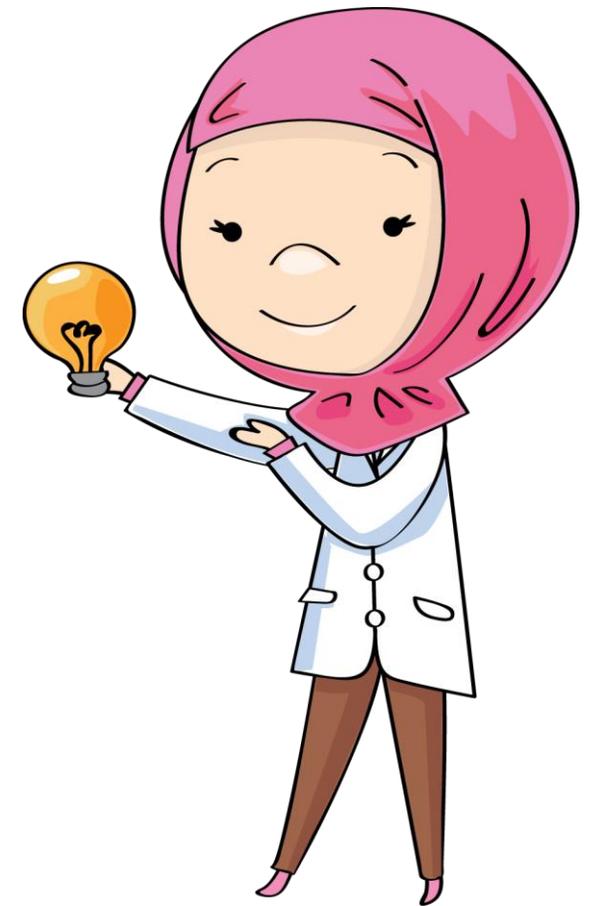


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WHO ARE SCIENTISTS?

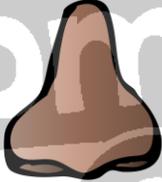
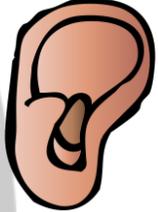
A scientist is someone who conducts scientific research in an area they are interested in.



You can be a scientist!

SCIENTISTS OBSERVE

An important part of learning is observing the world around you. Find a quiet spot outside. Sit down and take some time using your four senses to observe. Record what you see, smell, feel, and hear.

WHAT ARE YOU INTERESTED IN?

Write about scientific topics you like studying. What are some specific examples of topics you want to learn more about?



EXPERIMENTS *A note to parents*

Color Swirl

When the dish soap interacts with the milk, it begins to break down the fat in the milk. This is how dish soap cleans dishes. As the dish soap breaks down the fat, the food dye spreads.

Chemistry in a Bag

In this experiment, shortly after the bag is sealed with the baking soda tissue enclosed, the bag should expand and pop. This is because when the baking soda and vinegar mix, they create carbon dioxide (the gas we breathe out). Gas takes up more space than liquid, so the bag expands until it pops. In addition to doing the experiment as an introduction to the Scientific Method, it goes well with States of Matter.

Molding Milk

In this experiment the protein in the milk meets an acid (vinegar). The vinegar causes the casein to separate from the milk and form blobs. After the casein is strained from the liquid and dried, it creates a moldable clay. The clay will harden into a rock-like substance in a few days.

Delicious Crystals

When you mixed the water and sugar you made a saturated solution. The water could only hold the sugar if both were very hot. As the water cools the sugar "comes out" of the solution back into sugar crystals on your string. The string act as a "seed" that the sugar crystals start to grow on.

Glitter Explosion

This activity demonstrates how mixing a base (baking soda) with an acid (vinegar) causes a reaction.

Invisible Ink

This experiment shows the chemical reaction that occurs when lemon juice oxidizes when heated.



Color Swirl



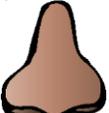
Objective: to understand the effect dish soap has on fat

Materials: plastic or foam plate, food dye, whole milk, dish soap, Q-tip

Procedure:

1. Pour milk into the plate so it completely covers the bottom.
2. Add 6-8 drops of different colored food coloring to the milk in the center of the plate.
3. Dip a Q-tip in dish soap.
4. Touch the Q-tip to the center of the plate where the food dye is. Observe what happens.
5. Repeat experiment with a different plate. Try putting the food dye around the edge of the plate for the second trial.

Observe:

	Milk	Food Dye	Dish Soap
			
			
			
			

Hypothesis: *What do you think will happen?*

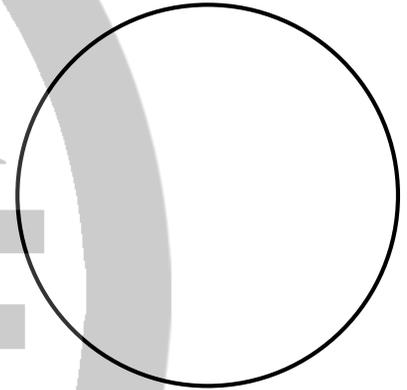
I think that

Collect Data: *Complete the illustrations to show what happened in this experiment.*

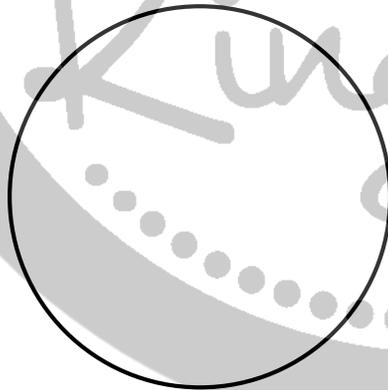
food dye in the
middle before soap



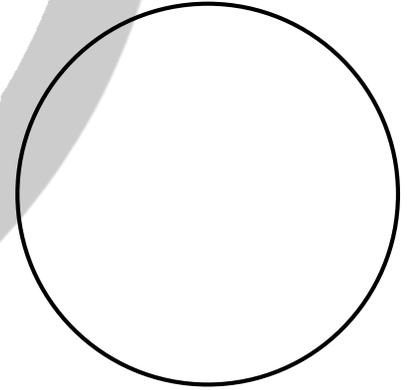
food dye in the
middle after
soap



food dye around the
edges before soap



food dye around
the edges after
soap



Interpret Data: Write sentences explaining the data you collected.



Drawing Conclusions:

My hypothesis was _____ (correct/ incorrect). I discovered



Reflections: What questions do you have? What do you wonder? Is there anything you would want to do differently?



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